

ABSTRACT

A compact scanning apparatus has an infrared laser adapted to emit light. An optical system delivers a beam of light emitted from the infrared laser to illuminate an interrogation area of the surface. The illumination has sufficient intensity and duration to cause selective desorption of molecules of the contraband substance present on the surface without substantially damaging the surface. A collection system collects at least a portion of the desorbed molecules. A chemical analysis system is associated with the collection system. The chemical analysis system has a detector responsive to the presence in the collection system of the desorbed molecules. The detector is adapted to output an electrical signal representative of the presence of the contraband substance. A signal means connected to the chemical analysis system operates in response to the output of said electrical signal to provide an audible or visible alarm. The apparatus rapidly detects the presence of a wide variety of contraband substances in an accurate, reliable manner. It provides for automated screening, with the result that vagaries of human performance are virtually eliminated. False alarms are reduced and detection efficacy is increased. A traceable residue of the detected contraband is left on the article for use in forensic analysis.

Too Long